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TELECOMMUNICATIONS POLICY,
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No. 186

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BANGLADESH

OPERATIONS OF BANGLADESH OVERSEAS RADIO REPORTED

Dacca THE BANGLADESH TIMES in English 11 Sep 81 p 5

[Text] "This is the Overseas Service of Radio Bangladesh." These are the words that go through the ethereal waves nine times every day, in the broad dialect of six vastly different languages, to the ears of innumerable listeners in far away countries and continents.

Upholding the prestige of Bangladesh the ambassador on ether is the perfect liaison in introducing the world to the country's art and literature, socio-economic development and future prospects. And in presenting programmes on poetry, discussions, documentaries, magazines, news reels, press reviews, news and commentaries, it seeks ceaselessly to strengthen the existing bonds of friendship between Bangladesh and all peace loving nations.

Starting off initially with the aim of transmitting for India, Pakistan and Nepal, the Overseas Service expanded to include in its range the six languages that continue today: Bengali, English, Arabic, Hindi, Nepalese and Urdu.

Interviews, discussions, documentaries and talks on holy places are part of the programme contents which has a strong emphasis on the history of Bangladesh, her culture, tradition, arts and crafts, dances, the scenic beauty and the places of historical and tourist interest, and the music of Bangladesh.

There is regular broadcast of Bangladeshi music especially the traditional folk songs, coming from different regions of the country. Lalan songs, songs of Hasan Raza and Sitalong Shah are also broadcast along with narration and lyric synopsis. The success of this method of presentation is evident judging from the numerous letters that come in praising our music. Eminent artists also render Ghazals, Hamd and Naat and even Nepalese songs are recorded and broadcast.

Notable among such letters are ones sent by: Velt Marti Anttilla of Haparvest, Finland, Thomas Sasenson of Vaxallo, Sweden, Miss H.B. Attar Khan from Mauritius and Miss Sambhab of New Delhi, who all had high praise for "local music of this country." These are only a few of the many listeners who send in numerous letters each day.

In interviews, the lives and contributions of famous people from different countries are presented, be they artists, literateurs, poets, musicians, educationist, etc, while industry, economy, life style, tourism, science and technology are the main subjects of talk programmes.

During a discussion Mr Samarjit Roy Chowdhury informed that Bangladeshi artists were now holding exhibitions abroad, winning international prizes, and are bringing back great honour for the nation. Mr Chowdhury, a professor in Fine Arts, at the College of Arts and Crafts in Dacca, was of the opinion that people abroad could be better acquainted with the painting of local painters, if the Overseas Service projects both the established and the upcoming painters. He suggested a wide coverage of national exhibitions saying it would encourage and attract tourists.

Bengali folklore is world famous. Programme with folk-lore bias are broadcast in each service.

Not only folk-lore, dramas are also broadcast. Based on our life style these dramas highlight the hopes and aspirations and the tradition upon which lives of this country's people is built. A few of the country's literateurs of bygone days wrote noteworthy literature in English, Urdu and Arabic. The wind mills of time have cast these unparalleled literary works into oblivion, but even then they are searched out and collected from the Asiatic Society, the old and even personal libraries with the object of broadcasting them to different target areas. Annual and special festivals are highlighted by special programmes.

National days of Bangladesh get top coverage but at the same time special coverage is ensured to observe the national days of different countries through attractive programmes. The visit of a foreign head of state usually results in special programmes discussing bilateral relations, talking about the natural beauty of that country, her industry, her culture and the way of life of her people and other attractive features. Similarly when the Bangladeshi head of state visits another country, talks, discussions and commentaries are broadcast dwelling on the existing fraternal relations between the two countries, bilateral exchanges and assistance etc. Apart from this special programmes on the music of that country is also put on the air.

Listeners Letter Box is one of the most attractive and popular programmes in the Overseas Service. Listeners from well outside the targeted broadcasting areas send in questions. Apart from listeners from the target areas, letters come from Australia, America, Japan, Nigeria, New Zealand, Czechoslovakia, etc, and the authorities reply to each letter by mail.

Many listeners are members of DX clubs, which publish mostly monthly and even weekly bulletins many of which contain the frequency and turning of the Overseas Service, listed. This is also a regular feature in foreign magazines, under the column concerning Radio. The famous German weekly Bunte also published the frequency and timings of the English Service. Exchanges of letters have resulted in greater publicity of the Overseas Service of foreign countries.

Al Hajj Moulana Aminul Islam, the Imam Khatib of Lalbagh Shahi Mosque and also an eminent Islamic thinker, during an interview, said that in a recent visit to the Middle-East he had observed, that the people of those countries were eager to know more about Bangladesh. In his opinion the transmission directed to that area was not adequate enough. He was of the view that the duration of the programme should be increased and there should be more items on various other

items. The Overseas Services, he went on to say, can act as an active and powerful ambassador to all countries and peoples.

Dr Mathura Kesi, a student at the Post Graduate Hospital of Medicine and Research has long been associated with the Nepalese programme in the Overseas Service. He says that the Nepalese programme, specially the musical part, is very popular in Nepal. Asked why Bangladeshi music is so popular with the Nepalese, he said that there was a great similarity in the folk music of the two countries. Dr Kesi remarked, "During a programme, I never feel that I'm doing the programme in a foreign land. I feel as if I am in my own native land."

Better known as a song composer and lyricist Dr Abu Hena Mustafa Kamal, a professor of Bangali at Dacca University had this to say about the Overseas Service:

"They are doing well but this is not enough for foreign listeners. But at the same time more and better programmes, means more people involved and this is something they probably do not have. There should also be more emphasis on culture."

A member on the advisory committee of Dacca station of Radio Bangladesh, Dr Mustafa Nurul Islam, a professor of Bengali of Jahangir Nagar University, near Dacca, said, "The authorities work sincerely and do more than enough. In fact they really give a lot of thought towards improving the service."

Mrs Ioni Sanderson, former Secretary of the Imperial Relations Trust, London, who visited the Overseas Service on a recent trip to Bangladesh, in an interview said, "The programmes of the Overseas Service have fascinated me. The service is devotedly presenting the image of Bangladesh to foreign listeners."

The ambassador on either radiates everyday trying to bring the entire world into the bonds of fraternity. And it is our belief, that the bonds of cordiality, goodwill and love, that have grown with the people abroad, will be further strengthened in the days to come.

CSO: 5500/7002

BANGLADESH

BRIEFS

REMOTE SENSING TECHNOLOGY--A meeting of the Space Research and Remote Sensing Organisation (SPARRSO), was held at "Mahakash Biggan Bha van" in Dacca on Thursday to discuss the application of remote sensing technology to the resource survey of Bangladesh, reports BSS. State Minister for Science and Technology Dr R. A. Ghani State Minister for Water Resources, Power and Flood Control Mr L. K. Siddiqui, State Minister for Public Works Mr Jamiruddin Sircar, Dr Amwar Hossain, Secretary, Science and Technology Division and Mr A Rahim, Chief Engineer, PWD, among others, addressed the meeting. Speakers at the meeting observed that the SPARRSO was involved in formulating the national space policy and conducting research on space science. It was also disclosed in the meeting that the government had recently signed separate agreements with SEP (France) NASA (USA), for installing ground receiving stations for landsat spot which, among others, would enable the country to be a seat of regional remote sensing centre for South East Asia. [Text] [Dacca THE BANGLADESH OBSERVER in English 5 Sep 81 p 3]

TELEPHONE LINK WITH FRANKFURT--Direct Telephone link between Dacca and Frankfurt, in operation since June 23 has been formally opened, the Bangladesh T and T Board announced in Dacca on Saturday reports BSS. A new telephone circuit between Dacca and Jeddah was opened on August 28. The T and T Board also announced the opening of a direct telephone circuit linking Khulna and London. Khulna became the fourth Bangladesh city after Dacca, Chittagong and Sylhet to have a direct international telephone facility. [Text] [Dacca THE BANGLADESH TIMES in English 7 Sep 81 p 3]

CSO: 5500/7001

DETAILS ON BHASKARA-II LIFTOFF PLANS GIVEN

New Delhi PATRIOT in English 19 Sep 81 p 4

[Text]

BANGALORE, Sept 18 (PTD) — India's second satellite for earth observation, Bhaskara-Two, will hopefully be launched in November from a Soviet cosmodrome, Prof U R Rao, Director of the ISRO Satellite Centre, said today.

In his keynote address to a seminar here on "APPLE-India's First Communication Satellite", organised jointly by the Indian Institute of Science and ISRO, Prof Rao said the flight model of Bhaskara-Two was ready and qualification tests were now being conducted.

A Soviet team would arrive here either at the end of this month or early October to conduct joint tests and readiness review. The spacecraft would then be shipped to the Soviet cosmodrome for the launching.

Bhaskara-Two is a successor to the first Indian earth observation satellite, Bhaskara, launched on 7 June, 1979 from a Soviet cosmodrome. Though its life was estimated at one year earlier, it functioned for more than 18 months.

Bhaskara-Two would carry a two-band TV camera system for visible and near infra-red imaging and three frequency radio meters operating at 19, 22 and 31

GHz frequencies.

All the ground supporting systems, including mission control at Shree, as well as ground stations at Shree, Ahmedabad and Bears Lake in Moscow are being readied for the in-orbit operations of Bhaskara-Two, designed and developed by ISRO.

APPLE LIFE SPAN

Dr Rao said the life span of APPLE, country's first experimental communication satellite will be 18 months, Prof Rao said.

He said depending upon the fuel availability and north-south station keeping, the satellite might even be available for operation for a period of two years. The APPLE was originally expected to serve for an year.

Prof Rao said the spacecraft was now in its right position and was being well controlled to suit international regulations.

He reiterated that the non-deployment of one of the two solar panels would not affect the mission of APPLE.

Referring to the criticism in certain quarters that the spacecraft was allowed to drift too long, Prof Rao said that the drifting manoeuvres were normal to take the satellite to its assigned slot of 104 east longitude. "It is incorrect to say that we could not hold the satellite"

TATA INSTITUTE PRODUCES MOBILE TRACKING DEVICE

Bombay THE TIMES OF INDIA in English 19 Sep 81 pp 1, 5

[Text]

BOMBAY, September 18: The mobile rocket tracking transmitter and receiver, made for the first time in the country at the Tata Institute of Fundamental Research (TIFR) here, will be delivered shortly to the Vikram Sarabhai Space Centre (VSSC), Trivandrum.

The completion of the project symbolises India's rapid progress in radar technology, rendering our defence, civil aviation and communication more self-reliant than ever before.

The equipment, when coupled with the radar systems fabricated by the VSSC, will be able to track objects as small as one sq. m. about 4,000 km. away from the ground.

The special microwave products unit (SMPU) at the TIFR had designed and fabricated the equipment in a record 18-month period for about Rs. 30 lakhs, effecting a saving of over Rs. 50 lakhs in foreign exchange. The imported components in the system form a bare ten per cent of the total cost of the equipment.

The SMPU had earlier supplied two units of the transmitter and receiver which were used for SLV-3 launching at Sriharikota. The latest equipment,

apart from being a superior version, is also mobile unlike the earlier ones.

The transmitter is so powerful that in one microsecond, it can generate a pulse of one megawatt. Up to 256 km., the signal from the transmitter will touch the skin of the rocket and will be reflected to the receiver. Beyond that range, it will trigger a transponder in the rocket to send signals.

The transmitter and receiver were designed by Mr. P. R. Tole and Mr. P. G. Nair, scientists at the TIFR. The servo system for the radar, which enables the antenna to always face the object, was designed by the BARC as it alone has the know-how for this system. The space application centre gave the know-how for the antenna.

The SMPU also claims that they alone have the complete design competence in the country for fabricating transmitters and receivers for any type of radar. That they have undertaken a Rs. 60-lakh defence project recently provides ample testimony to the claim.

The SMPU has already boosted the strength of our defence radar by replacing the imported critical components with their indigenous products. For example, some Russian-made radar in Bombay could not have been used any longer but for the components supplied by the SMPU. Similarly, the railways are among the beneficiaries as many of their radars run a trackless line of 500 with SMPU-made components.

In the next three years, India would have made a major breakthrough in supplying a vital component to our defence aircraft. These special type of transmitters will have to be made from what are known as "hard type modulators". This type of transmitters will emit coded signals from our own aircraft. If an enemy radar sends a signal, this equipment in our aircraft will not respond and hence, the enemy.

So far, all the defence aircraft in our country have been using the imported systems.

Indigenous manufacture of laser excitation, used in radiography and radiotherapy, might soon become a reality as a spin-off from the know-how generated by the SMPU.

Another significant contribution made by the SMPU is the "echo test". This has been supplied to Hindustan Aeronautics Ltd. for testing the quality of radars.

India's defence radar can be totally indigenous, if only the SMPU's know-how is backed by the necessary industrial infrastructure to manufacture the products in large numbers to meet the defence needs in a short time.

DETAILS OF INDIAN AGREEMENT WITH INSAT TOLD

New Delhi PATRIOT in English 22 Sep 81 p 5

[Text]

INDIA will get 1,200 two-way speech channels from the two INSAT satellites as a result of agreements arrived at with the INTELSAT in Washington recently, reports PTL.

This works out to an increase of about 12 per cent in the presently planned capacity of the satellites, 1A and 1B, scheduled to be placed in geostationary equatorial orbit in April 1982 and 1983-84, respectively.

An official release says it will also be possible to derive an additional TV distribution channel from each of the satellites.

The understanding with INTELSAT also covered the requirements in respect of the radio network and disaster warning services which will now be provided on INSAT.

The understanding means not only a larger use of the INSAT but a saving of several million dollars for India.

TWO SATELLITES

Two satellites, 1A and 1B, are being placed, respectively at 94 degree E and 94 degree E longitude positions in the geostationary equatorial orbit as part of the Indian domestic satellite system (INSAT).

These two orbit locations were decided upon by India for co-ordination with other nearby satellite networks in the Indian Ocean region, in accordance with

international regulatory procedures.

The coordination process is intended to ensure that satellite radio frequency interference effects among the various satellite networks are held within permissible limits.

For INSAT, interference co-ordination was necessary, particularly with satellite networks of INTELSAT (International Telecommunication Satellite Organization), Indonesia and the Soviet Union.

Detailed discussions had been held by an Indian team with INTELSAT in January 1977. Subsequently, a formal agreement was also signed between INTELSAT and India.

In the coordination process India had agreed to certain constraints on the technical parameters for the INSAT 1A satellite, specially for meeting INTELSAT interference criteria, which were stricter than those stipulated by the International Telecommunication Union (ITU). These meant reduced telecommunication channel capacity.

However, in September 1980, INTELSAT decided to fall in line with ITU criteria, which opened up the possibility for India to seek further coordination with INTELSAT in order to enable full exploitation of the potential channel capacity of the INSAT satellites.

INDIA

BRIEFS

GOA TELEVISION STATION--Altinho, 300 metres from the electric sub-station here, has been chosen as the site for a television relay station. The project received an impetus after the Lieutenant-Governor, Mr Jagmohan, visited the site last month and expressed himself in favour of erecting a steel tower to carry the T.V. antenna, instead of an RCC structure. The final design is understood to have been approved by Delhi. According to present indications, the antenna-carrying steel tower will rise to a height of 150 metres, making it the tallest in Goa. The Panaji T.V. station, to start with, will relay Bombay programmes via the wide-band microwave circuit of the P and T department. This circuit links Bombay with Madras. A band III transmitter with 10 kw power will be set up at Altinho. This will provide a service range of 75 km landward, and a T.V. coverage to an area of 10,000 sq kms, serving a population of 8.86 lakhs. The design for the T.V. station building has been entrusted to Mr R Reddiah, a young architect in the PWD. [Text] [Bombay THE TIMES OF INDIA in English 18 Sep 81 p 15]

MOBILE TROPOSCATTER SYSTEM--Bharat Electronics Ltd, Ghaziabad, has produced a transportable troposcatter communication system for the defence forces which is comparable to the best system of its kind anywhere. Consisting of three modules--the electronic system housed in a light-weight fibreglass shelter, a collapsible dish antenna system which is packed in a transit container for transportation and trailer-mounted generators--it can transmit up to 48 voice channels. It will provide the armed forces an ultra-reliable tele-communications system with a range of approximately 200 kms to replace the present line-of-sight and cable systems which are less secure and very prone to atmospheric disturbances. The quadruple diversity system (two antennas) also incorporate digital transmission. It has been tested for one-and-a-half years by the defence forces in different terrain and extreme climatic conditions. Through the indigenous development and production of this system BEL has saved foreign exchange worth Rs 3.20 crore and Rs 18 crore will be saved through the orders on hand. For this BEL received the Gold Shield for import Substitution this year. This is the second time this defence public sector undertaking has won this award. In 1979 it had received it for production of a secondary surveillance radar system for the defence services. [Text] [New Delhi PATRIOT in English 21 Sep 81 p 4]

PAKISTAN

BRIEFS

PAK-PRC DIRECT TELEPHONE LINK--A 3-member Chinese delegation left Islamabad for home on 3 October after concluding a 2-week tour of Pakistan. During their stay in Pakistan, the delegation members held talks with Pakistani authorities on direct links of telecommunications between two countries. A Pakistani telephone and telegraph department delegation will visit China later this year. [Karachi Domestic Service in Urdu 0200 GMT 7 Oct 81]

CSO: 5500/4504

TELEPHONE CENTRALS TO BE CONSTRUCTED IN SEVERAL CITIES

Lima EL COMERCIO in Spanish 20 Sep 81 p A-9

[Text] In January of next year, bids will be called for for the construction of automatic telephone centrals in all provincial capitals that do not already have the service.

This announcement was made yesterday by engineer Miguel Colina, chairman of the board of directors of ENTEL-Peru [National Telecommunications Company], at the official opening of the enterprise's facility in Barranca.

Colina said that over the next 4 years, some 300,000 telephone lines will be put into service and that existing centrals in cities that already have automatic service will be expanded.

"For example, we shall put up 8,500 lines in Huacho in order to meet the demand in that area," he said.

Emergency Telecommunications Situation

In addition, Colina said that in the field of telecommunications, the country is in an emergency situation due to the fact that outside of Lima, there are only 80,000 telephones for a population of 12.5 million people.

"Our telephone density is .7 percent — that is, under 1 percent. Countries with the same or even less economic development have much higher telephone densities. For example, Colombia has 5.5 percent," he said.

Projects

Colina said that in the face of this critical situation, plans for the next 5 years include a series of projects with an investment of 270 billion sols.

He said that in addition to the installation of automatic telephone centrals, the projects include the expansion of microwave systems, rural telephones, the construction of new stations, the expansion of telex, and others.

Colina added that there are also plans for expanding the system to the jungle, going from Trujillo to Iquitos and passing through Cajamarca, Chachapoyas, Yurimaguas and Tarapoto. "Very soon we shall call for bids," he said.

Automatic Central in Barranca

Colina later revealed that ENTEL-Peru's plan includes the installation of a telephone central in Barranca to meet the needs of its constantly growing population.

He then emphasized the efforts of Barranca's ENTEL workers to achieve the best installation of the facility in order to provide the community with better service.

During the ceremony, ENTEL-Peru area administrator Walter Bazan also spoke, pointing out that 15 new sections had been rehabilitated at a cost of some 20 million sols.

For his part, the mayor of the Barranca District Council, Carlos Bravo, thanked the ENTEL-Peru board of directors for the support given to expansion of the district's facility. "Barranca now has 60,000 inhabitants. It was proper that its needs be met in the field of telecommunications," he said.

The Barranca facility, which now has 15 new sections, was sponsored by Emma Vivero de Colina, wife of the chairman of the board of directors of ENTEL-Peru, and the mayor of Barranca, Carlos Bravo.

11,464

CSO: 5500/2010

BRIEFS

SATELLITE COMMUNICATION STATION—Two modern earth stations for domestic communications via satellite will be officially opened next month on the country's border, according to an announcement made by engineer Miguel Colina, chairman of the board of directors of ENTEL-Peru [National Telecommunications Company]. Colina also reported that one of the stations is located in Chavez Valdivia, a few meters from the confluence of the Comaina and Cenepa rivers, where the Peruvian people achieved brilliant action in defense of the nation's territory in the conflict with Ecuador. The other is in Caballococha (Colombia-Brazilian border), he said, in an area lacking telecommunications services because of its difficult geographic site. Stressing the importance of these two border stations, Colina said that they will make it possible to develop and integrate the region (like the Quillabamba station, also about to be opened). He added that the Chavez Valdivia station will provide support for the garrison tasks of our soldiers assigned to the area and for the conformation of borders in that fertile region. Colina made these statements to EL COMERCIO at the close of the official opening ceremony for the ENTEL-Peru facility in Barranca. [Text] [Lima EL COMERCIO in Spanish 21 Sep 81 p A-7] 11,464

CSO: 5500/2010

BRIEFS

USSR COMMUNICATIONS ASSISTANCE PROTOCOLS—Kabul, 11 Oct (BAKHTAR)—Protocols for Soviet assistance in the development of communications and radio television of the DRA were signed here yesterday between the DRA and the Soviet Union. The protocols provide for the delivery of two 100 kw transmitters for short-wave broadcasts and another 10,000 kw transmitter for medium-wave broadcasts by the Soviet Union to the DRA. The protocols also envisage a survey by Soviet experts for the setting up of two to four medium wave stations and their antenna's and the future development of TV in Afghanistan. Similarly, the protocols stipulate the development of central and provincial telephones and telegraphs and the surveys of technical equipments needed for the 18 storey building of the Ministry of Communications under construction. In addition the protocols anticipate all-sided Soviet help in the modernisation of a postal system in Afghanistan. [Text]
[LD120834 Kabul BAKHTAR in English 0450 GMT 12 Oct 81]

CSO: 5500/5503

INTER-AFRICAN AFFAIRS

BRIEFS

ETHIOPIA, KENYA MICROWAVE LINK—Addis Ababa, 28 Sep—A microwave link that will considerably improve telex, telephone and telegraphic services between Ethiopia and Kenya went into operation Sunday, it was announced here. The link is part of plans by Panafrikan Telecommunications (Panaftel) to develop communications between Djibouti, Ethiopia, Kenya, Uganda, Tanzania and Zambia. It is expected to extend north into Sudan within five years. The project cost the Ethiopian telecommunications service about three million dollars to complete between its southern city of Dilla and Moyale, a town on the Kenyan border, 320 km (200 miles) away. (AFP) [Text] [Paris AFRICA AFP in English 29 Sep 81 p 19]

CSO: 5500/5609

BRIEFS

NKUNTUNSE STATION INCOMPLETE--Incomplete infrastructure at the earth satellite station at Nkuntunse may mean that it will be some years yet before Ghana gets its full benefits, reported the MIRROR. It said the international switching centre that will make fully automatic international telephone, telegraph and telex services, is still on the drawing board, and will be sited behind the Accra North Post Office. Telephone callers still have to rely on the manual system through the External Telecommunications Office on High Street in Accra. Nevertheless, the coming into operation of the earth satellite station has reduced the waiting time for booking international calls and has increased the number of such calls. The MIRROR pointed out that the statement by President Limann during the inauguration ceremony of the earth station that \$344m. would be spent on expanding and rehabilitating the domestic telephone network, was incomplete in that he did not say that amount would be spent over a 19-year period. [Text] [London WEST AFRICA in English No 3346, 14 Sep 81 p 2146]

TELEPHONE SERVICE DISRUPTIONS--The Posts and Telecommunications Corporation (P&T) has still not been able to find a solution to telephone breakdowns in certain parts of the city of Accra. This is because, the Corporation has not been able to secure cables for improvisation. As a result, some establishments including the Graphic Corporation, New Times Corporation, Ghana Publishing Corporation and Taysec cannot establish contacts with other offices in and outside Accra. The telephone lines of these establishments have been silent for the past three weeks. According to reliable sources within the P & T Corporation, efforts are still being made to secure the necessary materials to improve the situation. [Text] [Accra DAILY GRAPHIC in English 15 Sep 81 p 8]

CFO: 5500

MORE TV CHANNELS, RADIO STATIONS PLANNED

Lusaka DAILY MAIL in English 30 Sep 81 p 1

[Text] PLANS are afoot to introduce more channels on television and increase radio stations, when the mass media complex still under construction in Lusaka becomes fully operational.

Minister of State for Information and Broadcasting Services, Mr John Banda said in Lusaka yesterday that it was the intention of the Party and its Government to introduce three television channels.

It is proposed to have a commercial channel to deal with commercial programmes, a national channel to screen programmes of a serious nature such as humanism and various aspects of the country's development, and an international channel to deal with entertainment programmes.

"We would like people to have a choice. If one does not like a programme on one channel, one would be free to switch over to another channel where there may be programmes which one likes," Mr Banda said.

As for radio, the Minister of State said, it was the intention of the Party and its Government to intro-

duce three main and nine regional stations. The three main stations will be the Copperbelt, Lusaka and External Services.

The Copperbelt station would deal with entertainment programmes, the Lusaka one with serious national issues and the external service, with programmes of international nature, particularly those dealing with liberation movements.

In addition to these main stations, each province would have a regional station to broadcast programmes in local vernaculars. Once these stations are established, the transmission of vernacular programmes from Lusaka would cease.

Mr Banda said all the regional stations would be linked to the mass media complex in Lusaka for news broadcasts.

The minister said there was a misconception amongst some sectors of the community that the mass media complex was being built to provide office accommodation to Zambia Broadcasting Services, Zambia News Agency and Zambia Information Services.

"We are not moving these organisations to the mass media complex so that they have more office

space. We are moving them there so that they have more professional facilities to enable them carry out their duties efficiently," Mr Banda explained.

He said the facilities to be made available in the new complex would be more than the three organisation's requirements in the immediate future. It had been planned so that there would be no need for replanning in case of any expansion programmes.

"We have to plan ahead. We do not want to be faced with a situation where we shall be forced to make further extension to the building in order to accommodate future expansion programmes," he said.

FIBER OPTICS COMMUNICATIONS SYSTEMS

Riga SOVETSKAYA LATVIYA in Russian 28 Jul 81 p 1

[Article by candidate of the engineering sciences, Yuriy Samoylov: "Horizons in Science and Engineering - Communications through Glass Fiber"]

[Text] "Physics has placed fiber optics equipment for light information transmission systems at the service of man. Fiber optics lightguides will be incorporated to an increasing extent in telephone, television and other kinds of communications, even in the current five-year plan," said president of the USSR Academy of Sciences, academician Anatolii Petrovich Aleksandrov at the 26th CPSU Congress. Basic research is underway in the institutes of the USSR Academy of Sciences which will make it possible to design modern communications systems of this type independently of foreign developments.

Mankind is today experiencing an enormous demand for communications. According to calculations by specialists, the volume of information being transmitted through satellites, cable and radio relay links is increasingly annually by 20 to 30 percent. However, despite the magnificent successes of astronautics, the lion's share of the load will, as before, fall on the shoulders of cable lines. A rather severe situation has developed here recently, which has forced scientists to feverishly look for a way out. It has turned out that cable lines fabricated from copper and aluminum have practically exhausted their capabilities. There is no sense in further improving them. The fact is that the more data which must be transmitted, the greater the number of amplifiers which must be placed on a line. And they are complex and expensive electronic devices. Moreover, reliable shielding is needed to protect the cables against various kinds of interference and thereby provide for signal transmission through the line without distortion. An enormous amount of metal is expended for this shielding. As a result, cable thickness and weight are growing inordinately. For example, the weight of the set of cables leading to transducers and indicators in a heavy aircraft runs up to the staggering weight of five tons! And besides this, it is impossible to disregard the increasing scarcity and high cost of nonferrous metals.

With the invention of the laser, hope appeared for the utilization of optical band electromagnetic waves for communications. But the first experiments led to disappointment. Communications was disrupted by rain, fog or snow even over a distance

of a few kilometers. Then the back-lighting from inside fountains was recalled. The light there propagated along the streams of water. The idea of enclosing light in a channel and sending through a thin glass fiber appeared. Soon the fundamental possibility of designing two-layer glass fibers was demonstrated, the core of which is fabricated from a denser glass than the jacket. If a narrow beam of light is directed into the end face of the fiber, then the light travels through it, experiencing multiple complete internal reflections at the boundary between the core and the jacket.

Producing such light guides has proved to a complex technological task. One of the difficulties was related to the different thermal expansions of the glasses which have different densities. With a change in the temperature at the boundary of the layers, such large stresses appeared that the glass cracked. And nonetheless, two-layer fibers promised so much that glassmakers took up the search for glasses which were compatible. In the final analysis, such lightguides were created, but yet another obstacle appeared - enormous light losses as the light travelled through the fiber. Only half of the light introduced into a light guide covered a distance of one meter, while only a thousandth of light energy overcame a path length of 10 meters. It was no secret that glass is completely transparent only in thin layers. If you look into the thin end face of window glass, then you can see it greenish color. This color is due to minor impurities, primarily copper and iron, which get into the glass from the air during its fabrication or along with the raw material - quartz sand. In order to move ahead, it was essential to learn the deep cleaning of material of contaminants.

"In our country," says Professor Mark Zhabotinskiy, "fine quartz filaments with an exceptionally high transparency have now been created. Light, in passing through them over a path of more than three kilometers, is not attenuated by even half. Signals can be transmitted through such a lightguide practically without distortion over a distance of more than 30 kilometers."

Scientists of the Institute of Radio Engineering and Electronics, the Physics Institute, as well as the Institute of Chemistry and the Engineering Physics Institute of the USSR Academy of Sciences participated in the design of lightguide communications systems. The physicists and chemists developed a manufacturing technology for fiber optic lightguides, designed the semiconductor light sources and receivers and also the techniques for introducing the light into the lightguides. Radio specialists developed highly reliable methods of incorporating the information in a light beam and converting the light signals to electrical ones.

The electronic equipment which operates in the complement of modern cable communications lines makes it possible to comparatively simply change over to information transmission via a lightguide cable. For example, in order to convert a conventional cable television system to a light guide system, it is sufficient to replace the copper coaxial cable with the lightguide cable and make small supplemental changes in the transmitting and receiving equipment. At the transmission point, it is necessary to convert the electrical signal to a light signal, and at the receiver, accomplish the back conversion.

A lightguide cable does not differ on the outside from a conventional cable with a polymer protective jacket. But in looking at a section through both cables, substantial differences can be seen. The first thing to strike the eye in a lightguide cable is the absence of the metal shields. They are not needed because lightguides are not afraid of electromagnetic interference. Inside the cable they are from two to several tens of extremely fine glass fibers. Each of them is capable of transmitting a fantastic volume of information - tens of television programs and thousands of telephone conversations. In this case, the spacings between the intermediate electronic equipment, the signal repeaters, can be increased up to 50 to 100 kilometers instead of the 1.5 to 5 km in the case of copper cables. As a result, the number of repeaters is significantly reduced, the construction and operation of the communications lines is simplified and made less expensive, while the weight of the cables is reduced by a factor of 10 or more.

The residents of Moscow, Leningrad, Gor'kiy and some other cities hardly imagine that a portion of their telephone conversations is already being transmitted by means of light. A number of automatic telephone exchanges in the nation are linked together with lightguide cables. They are gradually being incorporated in diverse technical equipment, primarily in that equipment which must operate in the presence of high level electrical interference. The considerable noise immunity of lightguide lines is especially clearly manifest in the design of the technical communications systems which service high power electrical transmission lines. The enormous flows of electrical power transmitted through these lines create a high interference level in their vicinity. And at the moment of emergency disconnections of electrical power lines, interference occurs which is comparable in terms of power to that produced by lightning. This is the same interference which has an impact on various control systems. Failure-free automation is possible only with the use of lightguides.

A short amount of time will pass and the new systems will penetrate into not just communications and industrial automation equipment, but into all areas of our daily life. Without leaving the apartment, one will be able to read as desired books on the screen of a television set, where these books are located in the most remote libraries, as well as view museum exhibitions and have conversations via a video-telephone and do much else which is as yet inaccessible to us.

8225

CSO: 8144/048

FRG TELEGRAM TRAFFIC TO BE COMPUTERIZED BY 1983

Duesseldorf VDI NACHRICHTEN in German 11 Sep 81 p 36

[Article by KHB: "Computers Steer Telegram—Transmission"]

[Text] As of 1983, the German Federal postal system's entire telegram traffic will be handled even faster via a computer-steered telegram service system (TDS). The installation, valued at about 20 million DM, is to encompass nationwide more than 400 computer terminals and the computer center with 16 processors in the TDS center in Frankfurt. At the computer terminal work places, telegrams from post offices without teleprinters and from telephone participants are received by telephone and transmitted to the center. Post offices with teleprinters and telex subscribers transmit telegrams directly to the TDS center.

The new telegram service system automates all routine work so far done by hand, such as word counting, determination and computation of charges, transmission and archiving of telegrams, as well as the compilation and evaluation of statistics. This, during a prime-time traffic hour with about 8,000 telegrams, makes possible the processing of a telegram even of the lowest priority in less than ten minutes.

The entire system's intelligence was divided into three levels. The central TDS computer system in Frankfurt takes care of the major part of the tasks for all inland, foreign, and transit-traffic telegrams to be processed, such as calculation of charges, forwarding direction, archiving, and statistics. Sixteen computers of the AEG Telefunken second generation ATM, type ATM-80-30, are connected with each other via a wire network of the digital communication system Dikos. The system configuration makes possible "around-the clock-operation," since service and repair work on individual computers can be carried out without diminution of operation. Directly connected with the TDS center are about 700 teleprinters of the telegraph terminals III via the Datex L network, all telex subscribers encompassed in the German Federal postal system which dial the TDS center via the public telex network and put their telegram directly into the system. Also connected are foreign telegraph stations via the G network or via base-circuits as well as foreign telegram computers via base-circuit.

The computer system's second level consists of 21 concentrators located at the telegraph terminals and distributed over the Federal Republic and Berlin. Computers of the type ATM 80-30 take over the sign-oriented processing of telegrams, for instance word counting, and concentrate or distribute the data flow from and to the intelligent computer terminals which constitute the system's third level. The concentrators are connected with the TDS center via the Datex P network.

The terminal work places connected directly with the concentrators offer comfortable text-processing functions and can easily be used by the operator, even without EDV knowledge. All telegrams arrive here by telephone from post offices without teleprinters and from regular telephone participants.

The total telegram service concept also takes into consideration the treatment of telegraphic transmissions in the postal money order and postal savings offices' money traffic, as well as the transmission of telegrams via coastal transmitters. The software for the entire system is provided by AEG Telefunken with participation of the Society for Process Control and Information Systems (PSI), Aschaffenburg.

9011

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MEXANDEAU OUTLINES GOVERNMENT'S COMMUNICATIONS POLICY

Paris ELECTRONIQUE ACTUALITES in French 25 Sep 81 p 12

[Article by D. Levy]

[Text] Brest--Last 18 September in Brest, Minister of Posts and Telegraph Mexandeu inaugurated the E10 telephone exchange supplied by CIT-ALCATEL [International Telephone Company-Alsatian Company for Atomic, Telecommunications, and Electronic Construction]. With that exchange, the world's 2 millionth E10 time division line has gone into service. According to the manufacturer, this is the first time that a time division system anywhere in the world has reached that level. And the E10's prospects look just as bright. The 7.5 million lines in service or on order in 25 countries will probably be doubled within a few years, considering expansion plans in the countries in question. In that context, the new PTT [Postal and Telecommunications] administration seems determined to give the E10 a push by favoring orders for that system in preference to its competitor, the MT system produced by Thomson-CSF [Thomson-General Wireless Company]. And Mr Dondoux, director general of telecommunications, said in fact that by 1982, the E10 would be the telephone system most purchased by the administration. It would account for 45 percent of the total number of lines ordered, compared to 40 percent for the MT and 15 percent for "other systems."

The inauguration of the Brest exchange, to which the 2 millionth E10 time division line was connected, was the occasion for a big ceremony (some even considered it excessive) that was attended by ministers and directors general of telecommunications from about 20 countries.

In his inaugural speech, Mexandeu paid tribute to "the fathers of time division switching--Libois and Pinet--and to the CNET" [National Center for Telecommunications Studies]. They were the originators of the E10 system, which was then produced industrially by CIT-ALCATEL. He also saluted the leading position and dynamism of the French time division switching industry, referring to Thomson-CSF's MT system as well as to the E10.

Mexandeu touched upon the nationalizations, emphasizing that "the government has chosen the electronics industry as the pilot industry for expansion of the public sector, seeing that with the exception of large foreign firms such as IBM and Philips and the SAT-SAGEM-Signaoux [Telecommunications Corporation-Company for General Applications of Electricity and Mechanics-Signaling and Electrical Contracts Company] Group, all the large firms in that industry are to become subsidiaries of the state

or of nationalized firms. Even before those decisions are implemented, I regard electronic switching as exemplary--it shows that national political will in an advanced technology industry can produce convincing results, even in a sector dominated internationally by multinational corporations."

Meets Standards

The Brest exchange ushers in a new generation of the E10 system, since it is equipped with the first of the new E10B's. Compared to the E10A, which was ordered by the PTT until 1977, the E10B has twice as much capacity (128 selector units instead of 64), bringing its TST [expansion unknown] connection system up to 3,000 erlangs (or 4,500 erlangs in another version), or 30,000 subscribers (or 45,000 subscribers in the other version).

That modification of the connection system is accompanied by increased processing capacity in the control units (microprocessors with special software) and by the application of modern technologies. Moreover, the E10B is equipped with a new subscriber connecting unit (the CSE 1000).

Lastly, the Brest exchange is the first E10 system to meet the PTT's new standards: the NEF (Development and Operating Standards)--started in 1975 on the initiative of Mr Souviron, then head of the DAII [Industrial and International Affairs Division of the General Directorate of Telecommunications], and later drawn up on the basis of proposals drafted by the CNET--and the NSS (Service Standards and Specifications), which was introduced in February 1978.

Toward a Reversal of PTT Quotas?

Although just starting in France, the E10B is already in service in Yemen, Qatar, and Sri Lanka--140 of those exchanges are on order in France, and 200 are in operation.

It is interesting to note that parallel with its development of the E10B (even though delivery times were exceeded by 1 year), CIT-ALCATEL was able to engage in the international marketing and development of its E10S version, which has a highly decentralized control system allowing it to serve from a few hundred up to 8,000 subscribers. The E10S, which is oriented toward computer communications applications, has already been chosen by the PTT for its CTA (Directory Terminal Concentrator), as the interface with the Telecom-1 ground system, and for equipping the switching and management networks for the future cellular radio ("CORPAC") systems.

The PTT also seems determined to give the E10 an additional push by favoring orders for that system over the MT20. During the press conference that followed the inauguration in Brest, Dondoux said that in 1982, the E10 system will be the most-ordered system in France, with 45 percent of the total number of new lines, compared to 40 percent for the MT20 and 15 percent "for the other systems" (AXE, 11F and, possibly, the System 12, which is still in the experimental stage). Investment credits for 1982 will remain constant in volume.

In the absence of further information, it is impossible to tell from those remarks whether they signal a reversal of the quotas assigned to the two main suppliers of

PTT exchanges. This year, orders for switching equipment (representing approximately 5 billion francs) were allocated at the rate of 46 percent to Thomson-CSF and 42 percent to CIT-ALCATEL. But this was a question of money values. The difference in the number of lines is not significant (line costs differ depending on whether they represent expansion or new lines). Moreover, the number of lines ordered from a manufacturer in a given year is not known until 31 December of that year. The statements by the new director general of telecommunications therefore reflect the fact that the E10, which is available and less expensive at the moment than the MT (with which there are delays) represents a better bet for keeping things moving than the MT. And it could lead in the long run to a reversal of the quotas (in francs) assigned to the two manufacturers.

11798

CSO: 5500/2011

BRIEFS

TELECOMMUNICATIONS SYSTEM SLOWING MODERNIZATION--The National Telecommunications Administration is seeking an investment budget of 1 billion, 439 million kronor for the 1982-1983 fiscal year. At constant prices, that is about 46 million kronor less than its investments during the current fiscal year. The National Telecommunications Administration will finance most of the proposed investment budget from its own depreciation reserves. The net amount being requested from the national budget is 78 million kronor. The National Telecommunications Administration is modernizing the telephone system by replacing electromechanical equipment with electronic equipment. That project is expected to be complete at the start of the 21st century. The company is now slowing the pace of its modernization, and that explains the drop in investments. As far as radio and TV are concerned, the investment appropriations for coming years were reduced by the budget bill submitted in January 1980. The result is that a fourth FM network is being postponed, special transmitters for regional TV will be scrapped over the next few years, and so on. [Text] [Stockholm SVENSKA DAGBLADET in Swedish 7 Sep 81 p 3] 11798

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